

METHOD OF MANUFACTURING A
NICKEL-BASE ALLOY WELDING FILLER METAL

ABSTRACT OF THE DISCLOSURE

A welding filler metal is manufactured by casting a nickel-base alloy as an extrusion rod having a diameter of from about 0.2 inch to about 0.5 inch. The extrusion rod has at least about 12 grains in the cross section of the extrusion rod. The extrusion rod is extruded in a single extrusion operation to a filler-metal diameter of less than about 0.1 inch and using an areal extrusion ratio of at least about 9:1 to form the welding filler metal. Preferably, the process is used to make a nickel-base superalloy welding filler metal of a diameter of about 0.05-0.06 inch from an extrusion-rod casting of about 1/4 inch diameter and having at least about 12 grains in the cross section.